

## Submittal Data Sheet

### Project Information

Project \_\_\_\_\_ Approval \_\_\_\_\_

### Specification

The NFPA 99 compliant digital, fully automatic manifold shall be a Tri-Tech Medical *GeneSys™* series. No manual resetting of valves or levers shall be required. The unit shall always provide gas from the left (vapor withdrawal from portable bulk or bulk vessel) unless the pressure from the left inlet bank is depleted. The unit shall switch from “Bank in Use” to “Reserve” bank without fluctuation in line delivery pressure. Simultaneously, the “Reserve in Use” alarm shall be triggered by the manifolds microprocessor. The manifold shall continue to provide gas, in the event of a power failure, until both banks are depleted. After the switchover, the “Reserve” bank shall then become the “Bank in Use”. When the left bank is replenished and the left bank pressure is sufficient, the manifold will automatically resume providing gas from the left bank and designate the left bank as the “Bank in Use” and the right bank as the “Reserve” bank. The manifold microprocessor shall also trigger the “High Line Pressure” and “Low Line Pressure” alarms without the need for additional pressure switches or transducers. The manifold microprocessor shall also trigger the “Emergency Reserve in Use” and “Emergency Reserve Low” alarms when used with transducers supplied separately. The PLU series manifold will trigger all six required NFPA 99 alarm signals when installed per manufacturer’s requirements: high line pressure, low line pressure, secondary in use, right bank (secondary) low, emergency reserve in use & emergency reserve low. Note the secondary in use alarm will be triggered if either the Left and/or Right Bank pressure drops below 95 psig (for 50 & 80 psig delivery pressure applications) or 190 psig (for 170 psig delivery pressure applications).

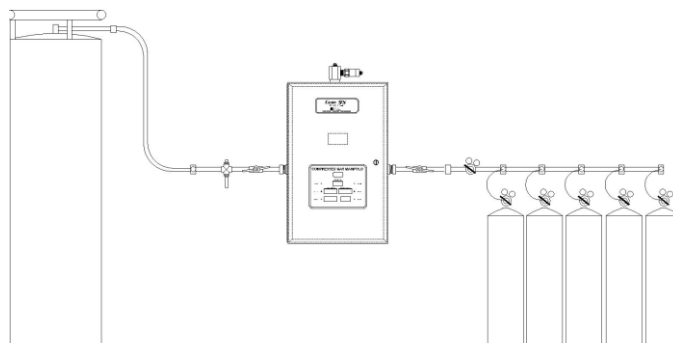
The control cabinet shall also incorporate economizer gas circuits for both banks. The economizer circuits will allow the head pressure of the reserve bank to be utilized instead of venting to atmosphere so long as there is sufficient system gas usage.

### Flow Capacity

Gas Service	Standard Line Regulators	High Capacity Line Regulators
Oxygen	800 SCFH (378 l/min)	1,600 SCFH (755 l/min)
Nitrous Oxide or Carbon Dioxide	800 SCFH (378 l/min)	1,600 SCFH (755 l/min)
Nitrogen	1,000 SCFH (472 l/min)	1,800 SCFH (850 l/min)

Note: Above flow rates allow up to 10 psig pressure drop in line pressure

Note: External vaporizers will be required to achieve these flow rates. Typical portable bulk vessels without external vaporizers will flow 250 to 350 scfh per vessel (consult the specifications provided by the vessel manufacturer).

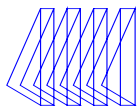


The control panel shall incorporate five large, green,” illuminated LED displays, for the Left Bank, the Right Bank, Delivery Pressure, Intermediate Pressure and Emergency Reserve Bank Pressure.

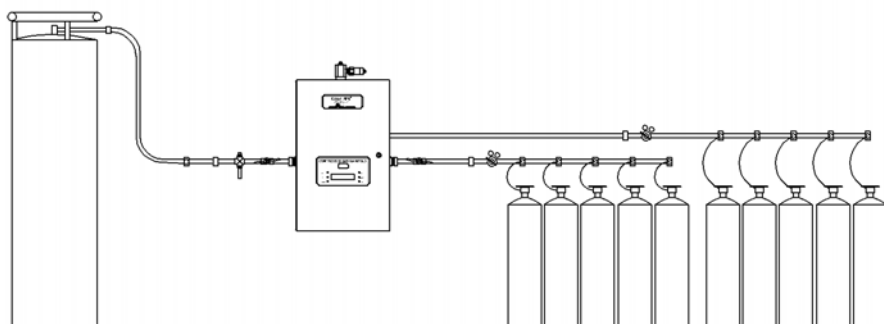
Analog gauges are also provided so that all above pressure zones may be observed in the event of a power failure. The control panel shall also incorporate a set of LED’s for each bank, green for “Bank in Use”, amber for “Ready” and red for “Empty”. All manifold regulators, piping and control switching equipment shall be cleaned for use with oxygen service and installed in a steel cabinet (weatherproof aluminum version available) to provide protection and minimize tampering.

### Features

- Fully automatic – no resetting of valves or levers
- Input power 120 VAC, 50 to 60 Hz - single point connection
- 400 psig differential rated solenoid – can’t lock up
- 72” flexible pigtail (for portable bulk or bulk connection)
- Economizer circuits for maximum efficiency of gas use
- Unit of measure switching (psi, kPa, BAR).
- Dual line pressure regulators
- Built for expansion by adding header extensions.
- Cabinet weight 75 lbs.
- May be converted from low or medium pressure liquid portable bulk vessel use to use with high pressure cylinders.
- Line pressure sensor may be mounted inside the cabinet or remotely located to eliminate the need for a high/low pressure switch for master alarm operation.



**Dimensional Drawing**



Typical installation shown above  
primary (left bank), secondary (right  
bank) and emergency reserve bank



20" header length  
(Header pictured above accommodates 2  
- 72" flexible pigtails for 2 portable bulk  
vessels + relief valve with pipe away)

**Design Lengths**

**TOTAL NUMBER OF CYLINDERS**

Cabinet only is 17" W x 26 1/4" H x 9" D

See RWP / RSP series high pressure reserve manifold catalog page for dimensional information

**How to Order** Easy to use modular ordering system. Fill in the 8 blanks to specify the manifold that meets *your* needs.

	<b>U.S.A or Canada</b> C = Canada U = U.S.A	<b>Final Line Regulation</b> 1 = Single Line Regulator 2 = Dual Line Regulators	<b>Delivery Pressure</b> 1 = 50 psig 2 = 80 psig 3 = 170 psig	<b># of Vessels on Left Bank</b>
<b>P</b>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>
<b>L</b>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>
	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>
	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>
	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>
	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>
	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>

**Cabinet Type**

1 = standard  
2 = weatherproof

**Gas Service**

CD = Carbon Dioxide  
HO = Hyperbaric Oxygen  
NT = Nitrogen  
NO = Nitrous Oxide  
OX = Oxygen

**Flow & Heater Options**

L = Standard flow  
H = High flow  
W = With heaters

**Examples:**

PLU22OX1L1 = *Genesys™* Preferential Logic Manifold, U.S.A. version, weatherproof Cabinet, CGA 540 Oxygen service, Dual Line Regulators, 50 psi delivery, standard flow, 1 portable bulk vessel

PLU12NT3H2 = *Genesys™* Preferential Logic Manifold, U.S.A. version, standard non-weatherproof Cabinet, CGA 580 Nitrogen service, Dual Line Regulators, 170 psi delivery, high flow, 2 portable bulk vessels